

The vacuum expectation value of the spinor massive field in the cosmic string spacetime

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Abstract

We find the contribution to the vacuum expectation value of the energy-momentum tensor of a massive Dirac field due to the conical geometry of the cosmic string spacetime. The heat kernel and heat kernel expansion for the squared Dirac operator in this background are also considered and the first three coefficients are found in an explicit form. © 2006 IOP Publishing Ltd.

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